

CITY GOAL



Asthma hospitalization rate
and
Outdoor air quality

October 26, 2016

asthma + outdoor air quality

AGENDA

Meeting kickoff

Presentation

Questions and discussion

Wrap-up

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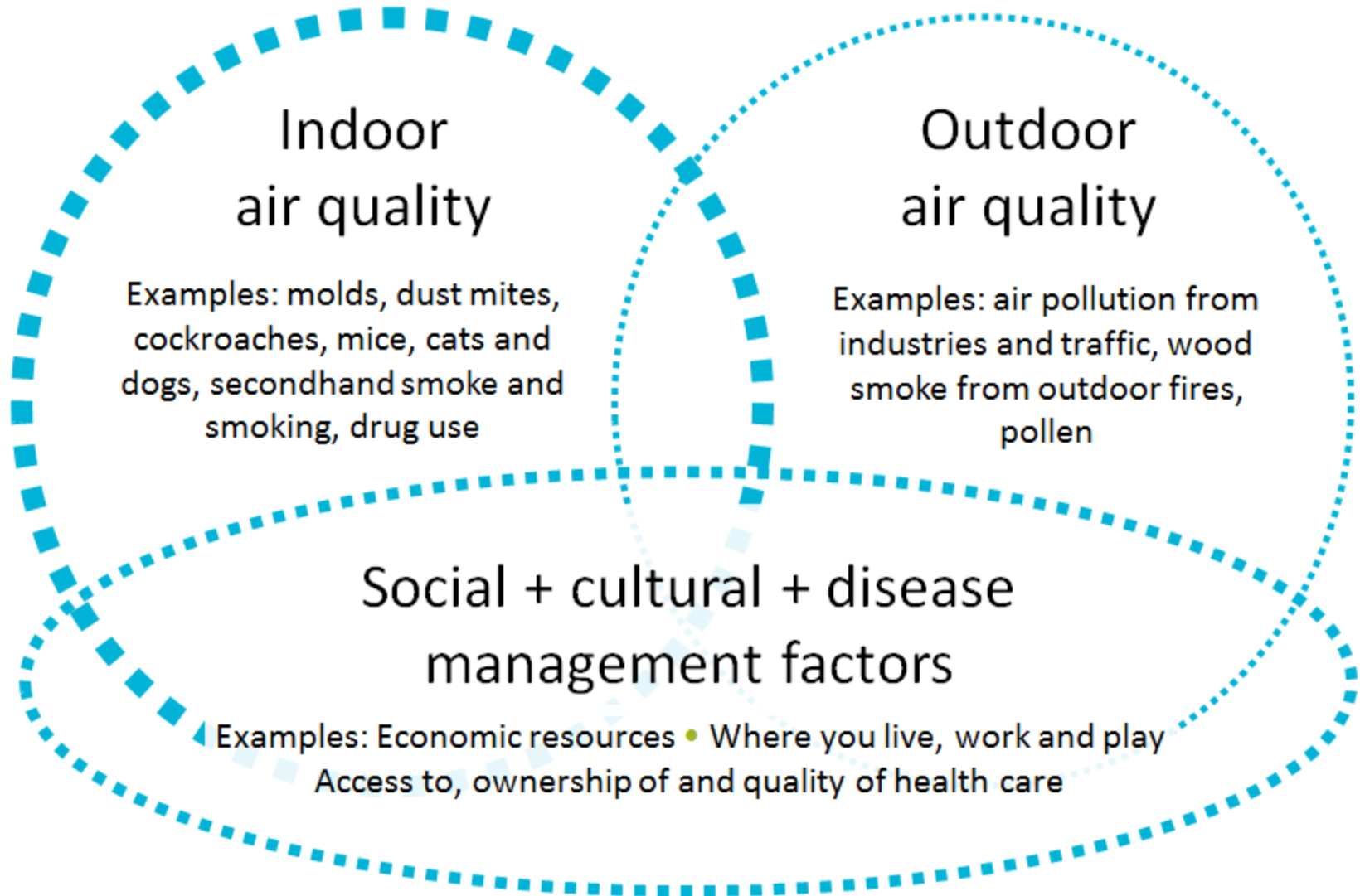
Questions and discussion

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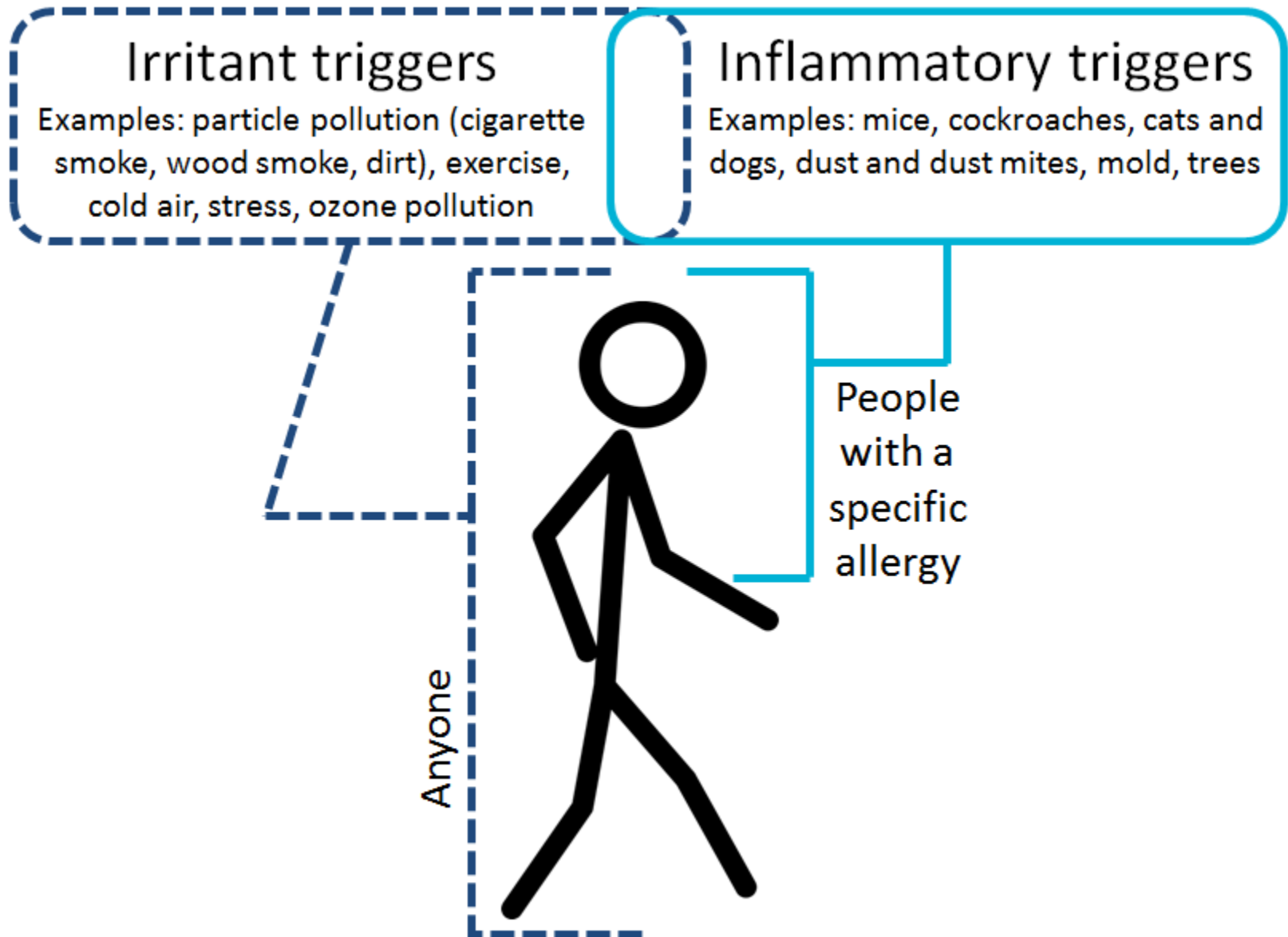
UNDERSTANDING THE ISSUES

1. Disparities in asthma hospitalization rates exist within Minneapolis and within Minnesota. This health equity issue reflects social, cultural and racial inequities. Targeted solutions are needed in order to address these disparities.
2. We have a relatively good understanding of the major triggers of asthma symptoms. Environmental triggers inside the home are a major cause of asthma symptoms. If triggers can be removed or avoided, asthma symptoms can be reversed or prevented. Some fixes are easy and some are more difficult.
3. We also have a good understanding of the interventions that we know are successful. The issue is having the resources we need to pay for these interventions.

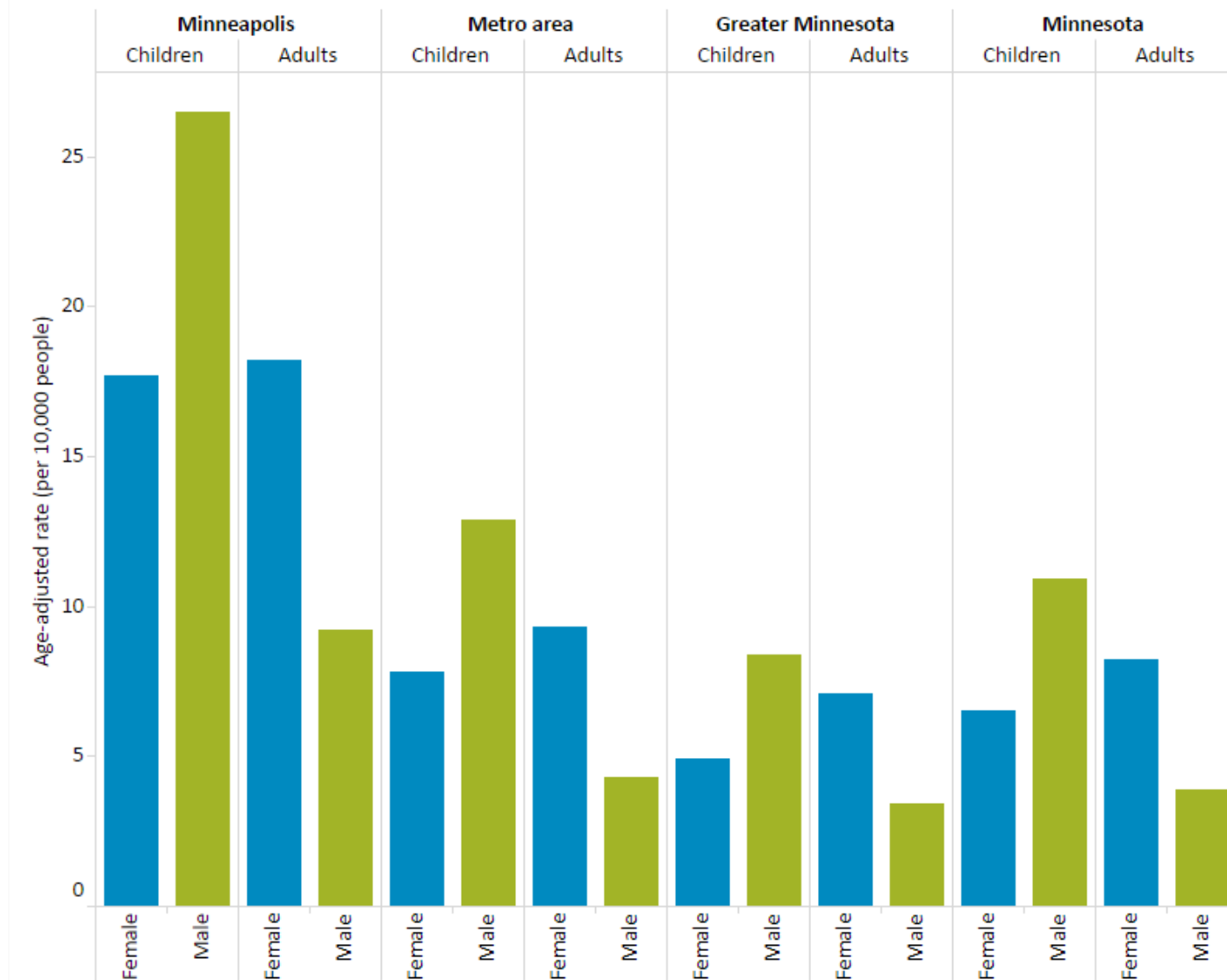
Framework: Asthma hospitalization rate



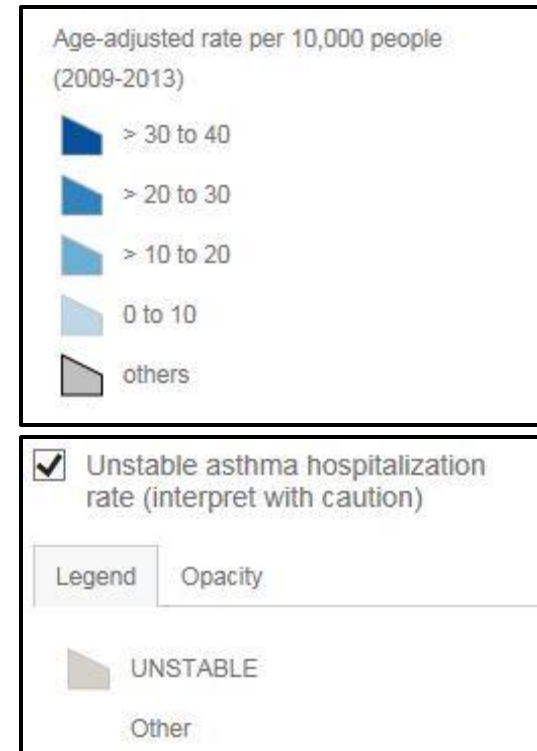
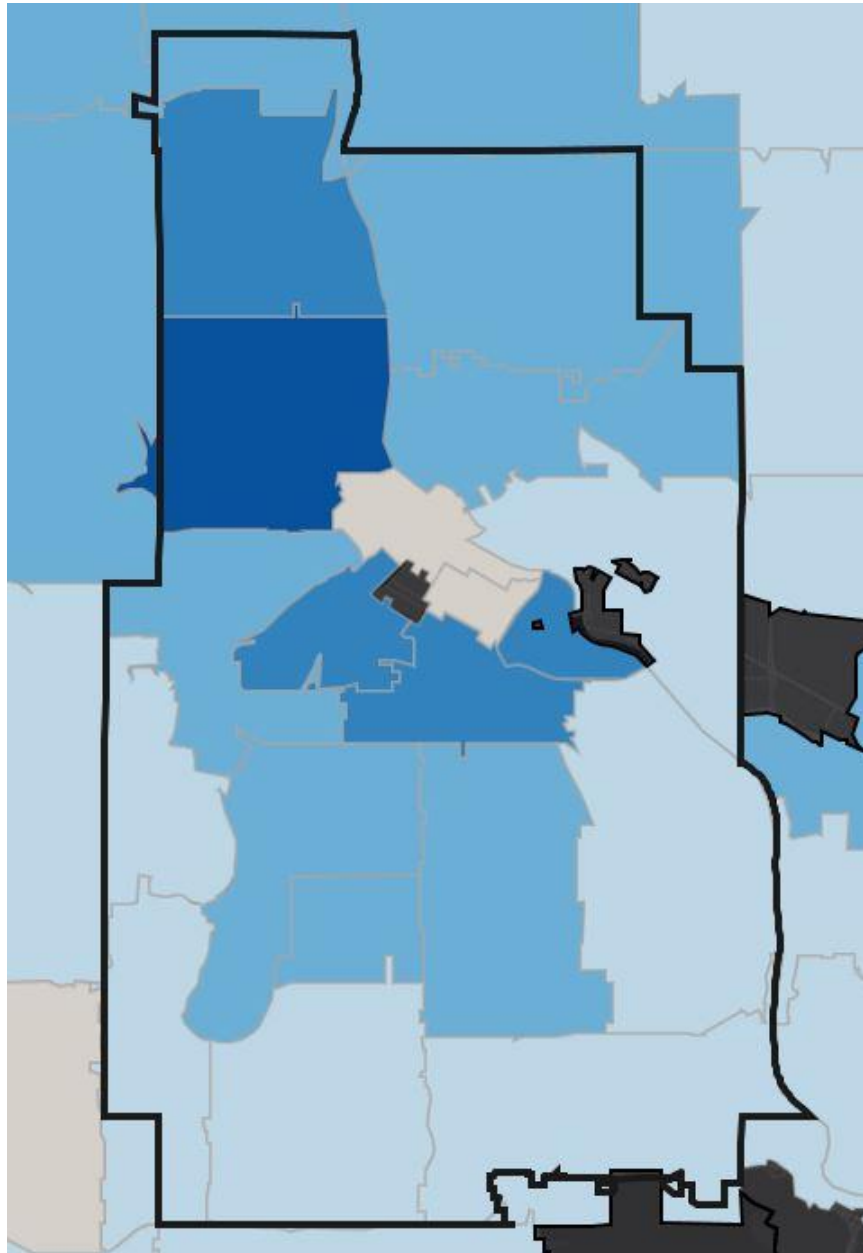
Framework: Asthma hospitalization rate



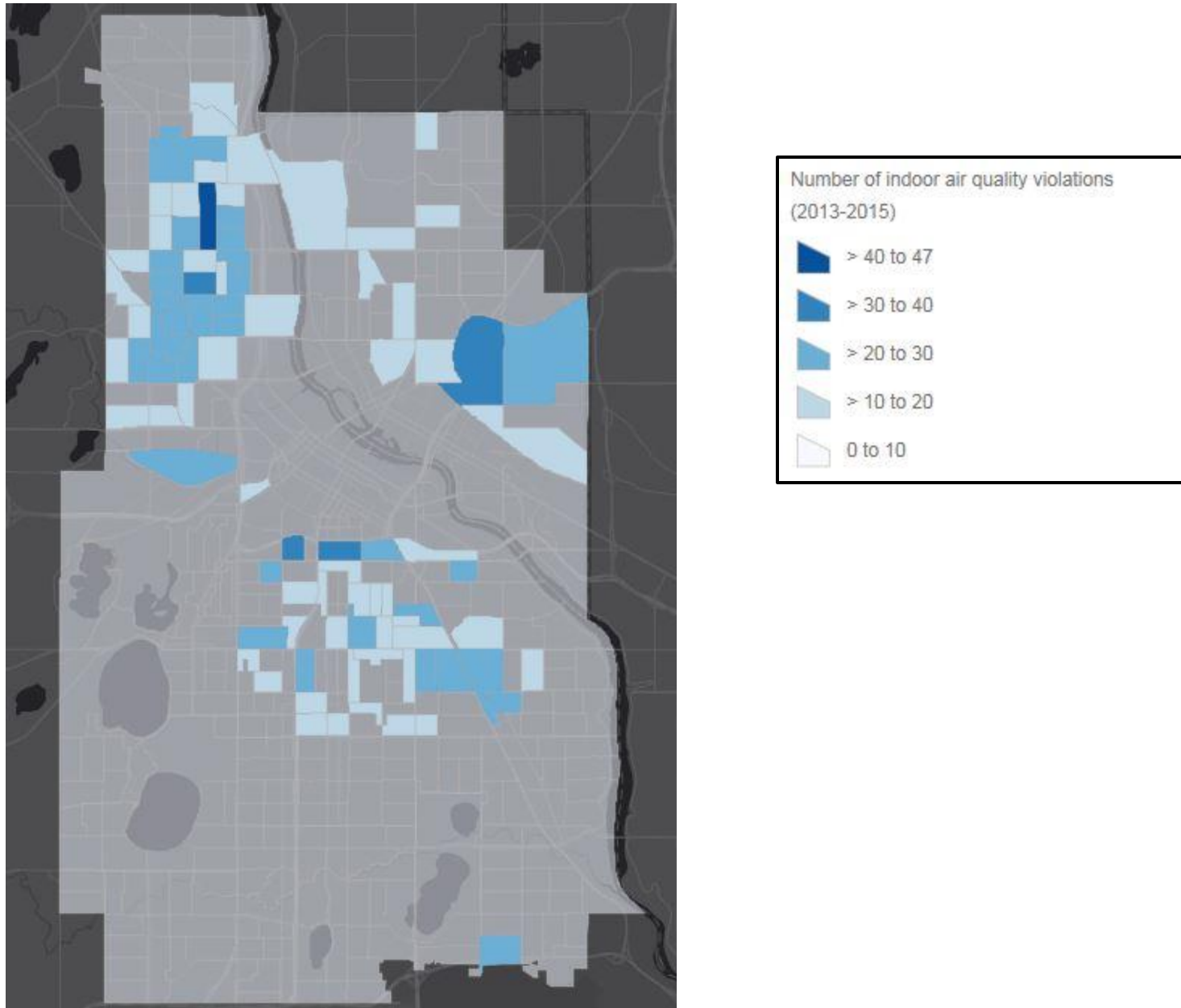
1a. Asthma hospitalization rates by region, age group and sex (2009-2013)



1c. Asthma hospitalization rate by zip code (2009-2013)



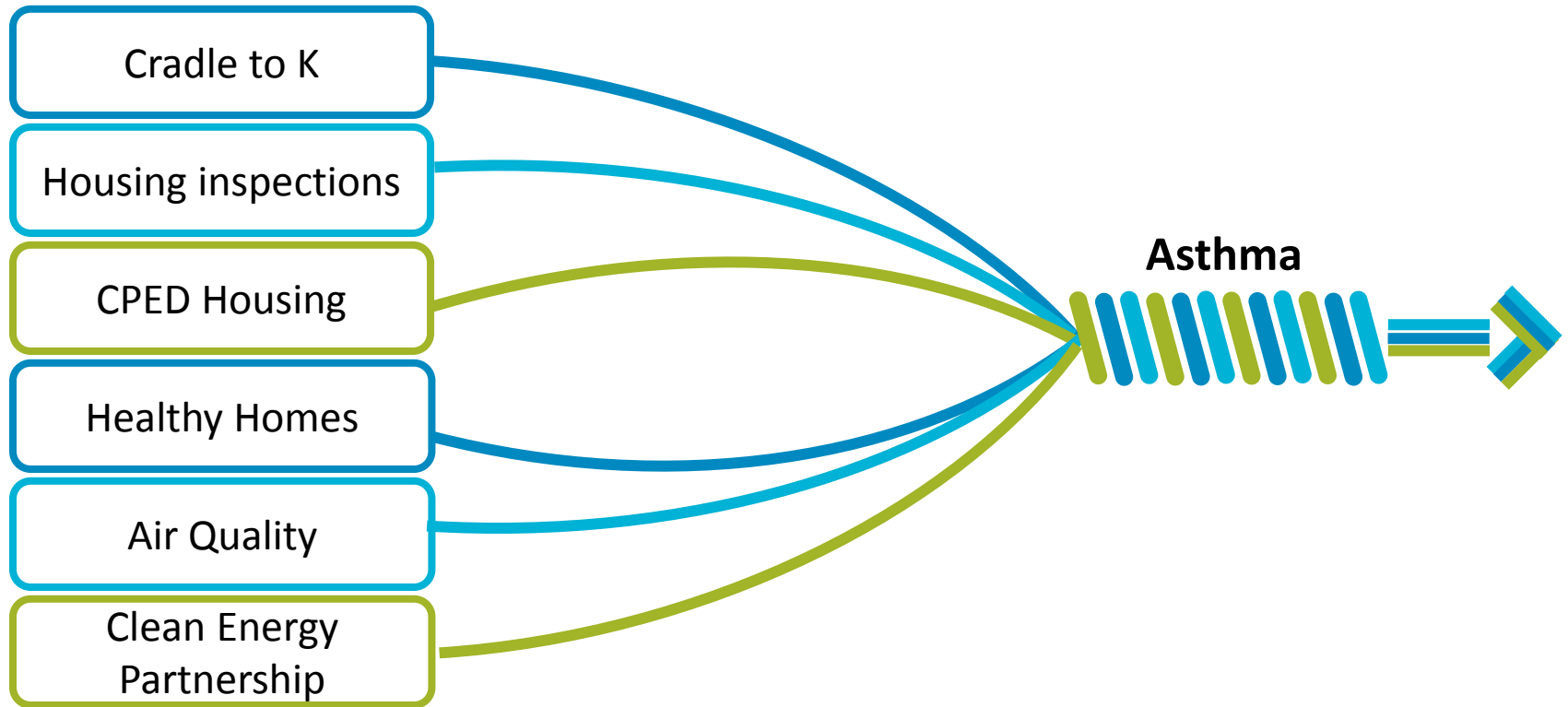
2a. Indoor health violations by block group (2013-2015)



3a. Environmental Action for Children's Health (EACH) program outcome: School days missed due to asthma

School days missed due to asthma





UNDERSTANDING THE ISSUES

1. The City's role in influencing our broad indicators of PM2.5 and ozone is to be stewards of our local and regional air quality by taking the action we can to limit emissions and to avoid making air quality worse. We have a responsibility to protect people who are exposed to outdoor air pollution where they live, work and play.
2. Air pollution comes from many sources. While we generally know which of these sources contribute the most, misperceptions can distract us from focusing on what we know would have the biggest overall impact.
3. Some people are more susceptible to health impacts from air pollution because of the combined effects of underlying disparities in social determinants of health and proximity to pollution sources. The City should place a greater focus on area sources of air pollution than on regional air quality.
4. Determining the biggest opportunities for City action does not only involve focusing on the largest pollution sources. It also involves focusing on sources that are not already regulated by other entities such as the state and federal government, or going above and beyond regulatory standards to meet health standards. From a City perspective, the biggest areas for the City to improve air pollution are on and off-road mobile sources and area sources.
5. When we have the capacity to put interventions in place to improve air pollution, these interventions work. Their positive impact extends to other aspects of the City's work.

Framework: Outdoor air quality



Mobile sources



Point sources



Area sources



The health impacts

are... varied and complex.

We know that all of these sources contribute to health issues, like asthma, cancer and risks of cardiovascular and respiratory diseases. However, we do not know the size of the impact from each of these sources on the known health risks. That is why it is important to address all three sources.

Additionally, these air pollution sources cause harm to vegetation and wildlife and create costs for businesses.

What are they?

On road sources like motor vehicles and off road sources like construction machinery

Stationary sources of air pollution, like factories and power plants.

Auto body shops, dry cleaners, gas stations, HVAC (heating, ventilating, and air conditioning) systems in buildings, and home chemical storage.

Who regulates them?

Mobile sources are regulated by the federal government and do not require permits from the State of Minnesota.

Point sources are permitted by the State of Minnesota.

Area sources do not require permits from the state and so they offer a an important pathway for the City to have an impact.

What can the City do?

The City can impact on-road sources through multi-modal transportation planning, promoting good traffic flow, investing in public transit and promoting cleaner vehicles.

The City can impact off-road sources through standards on our own construction and permit requirements for other construction projects in the city.

The City can influence point sources through programs and partnerships like the Green Business Cost Sharing Program to support businesses in meeting regulations or meeting higher health-based standards.

The City can work with individual businesses through programs and partnerships like the Green Business Cost Sharing Program to help them meet health-based air quality standards.

The City works with building owners on energy efficiency strategies.

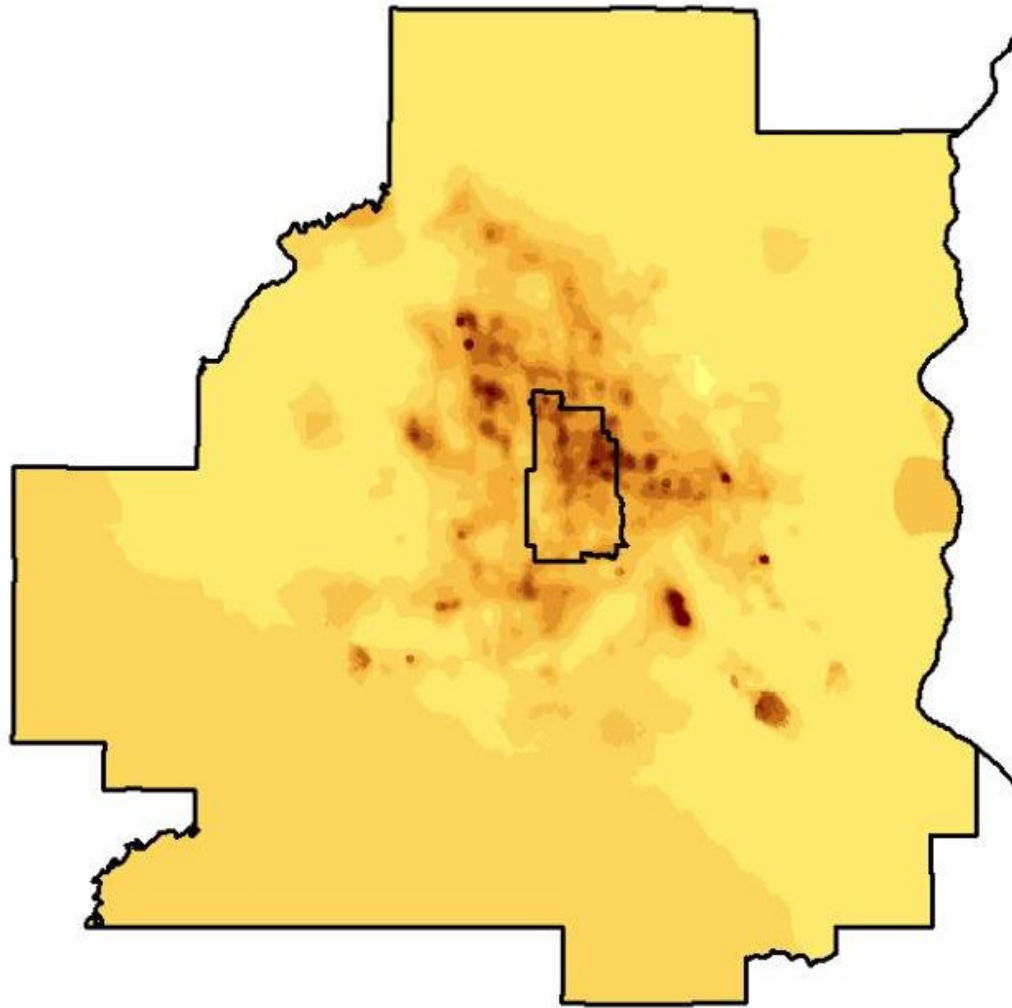
How does equity connect?

Vulnerable populations tend to live in closer proximity to on-road sources, making this a large impact on equity.

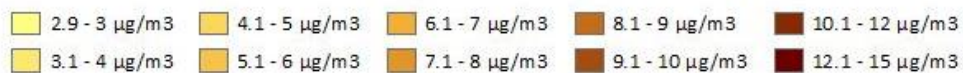
The higher level of regulation of point sources makes equity issues comparatively smaller.

Due to the local nature of area sources, addressing these sources can have a large impact on health equity.

1b. Modeled PM2.5 concentrations, metro area (2011)



Modeled annual adjusted PM2.5 concentration (micrograms per cubic meter), 2011



3b. Air quality in Minneapolis: A neighborhood approach



Air Quality in Minneapolis: A Neighborhood Approach.

Choose a Study:

Air Quality Study

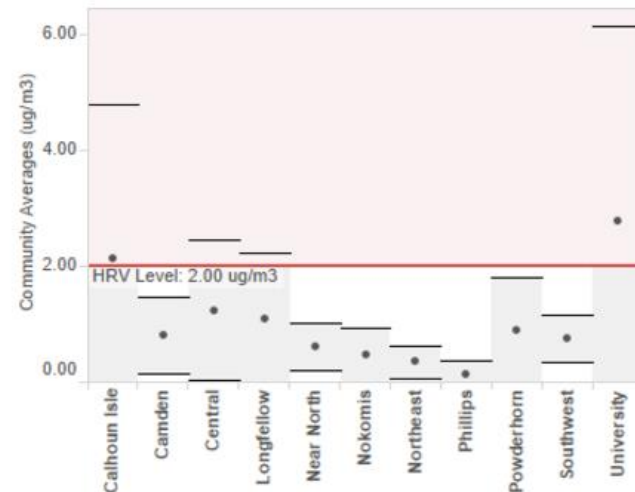
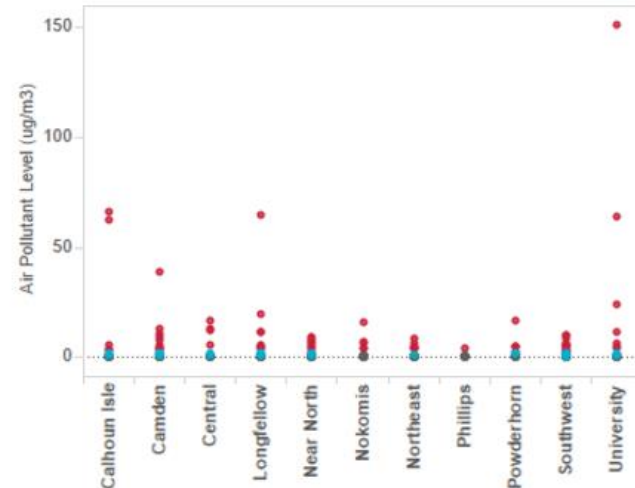
Choose Air Quality Study Air Pollutant:

Tetrachloroethene

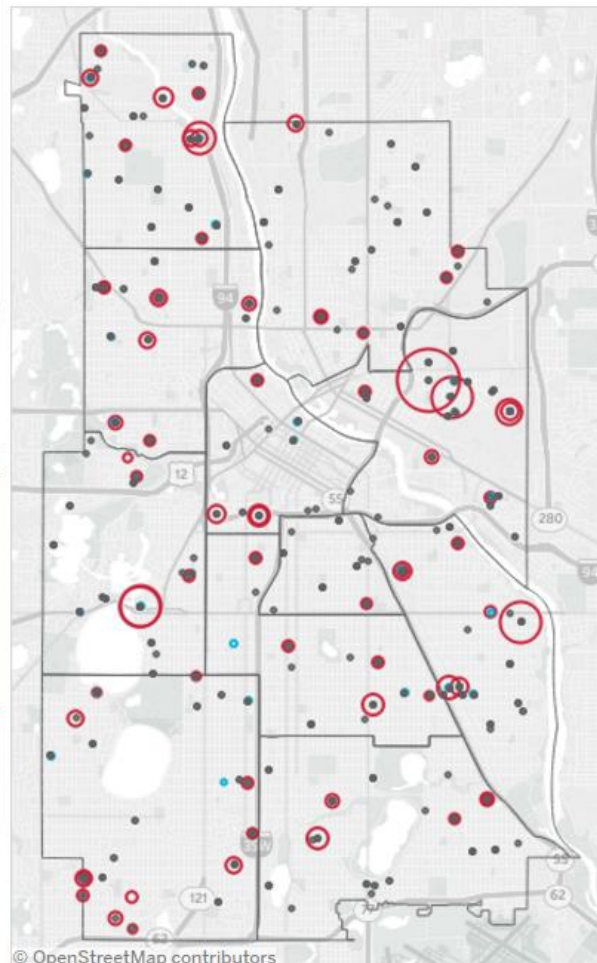
non-detectable

less than HRV level

over

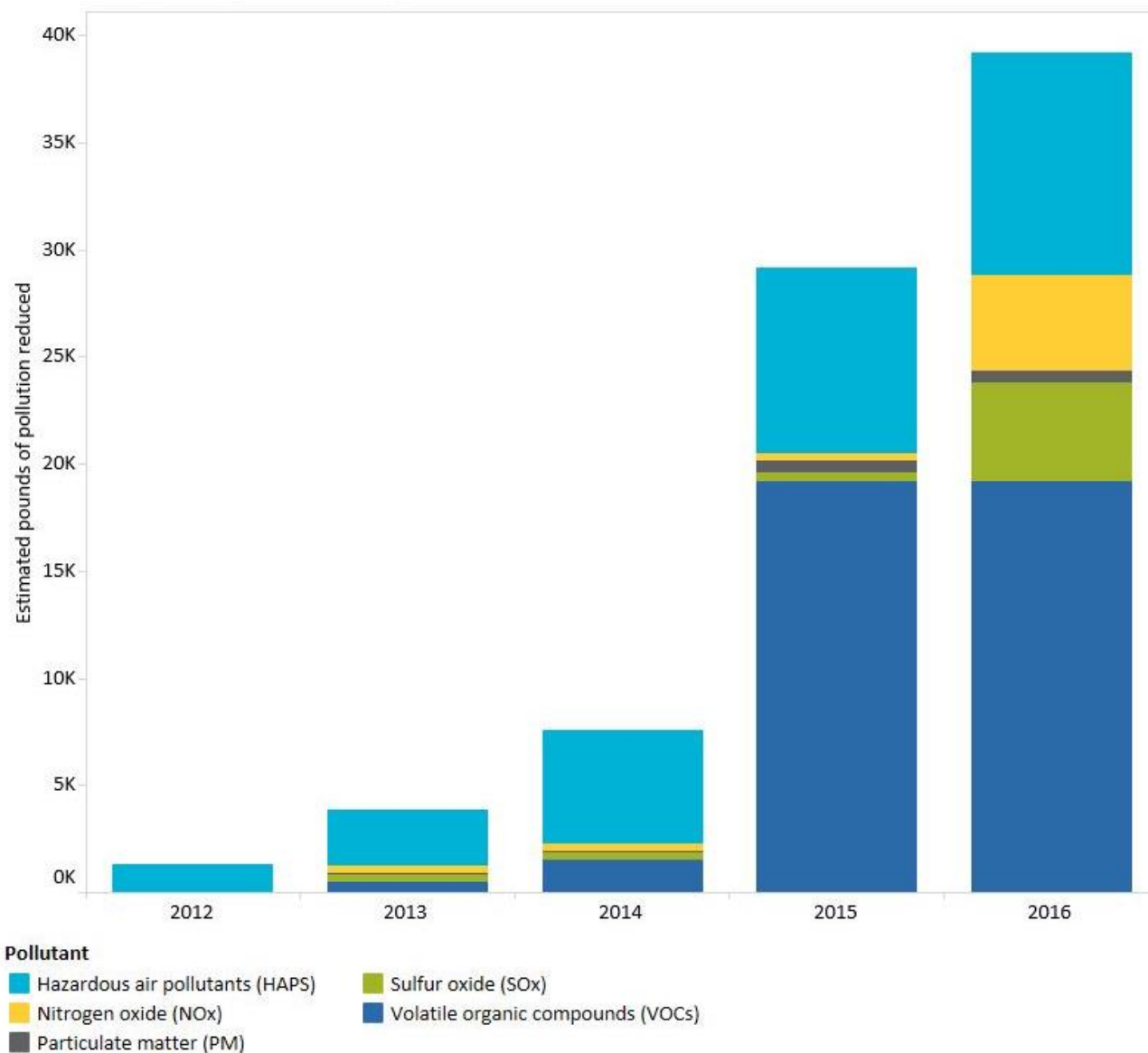


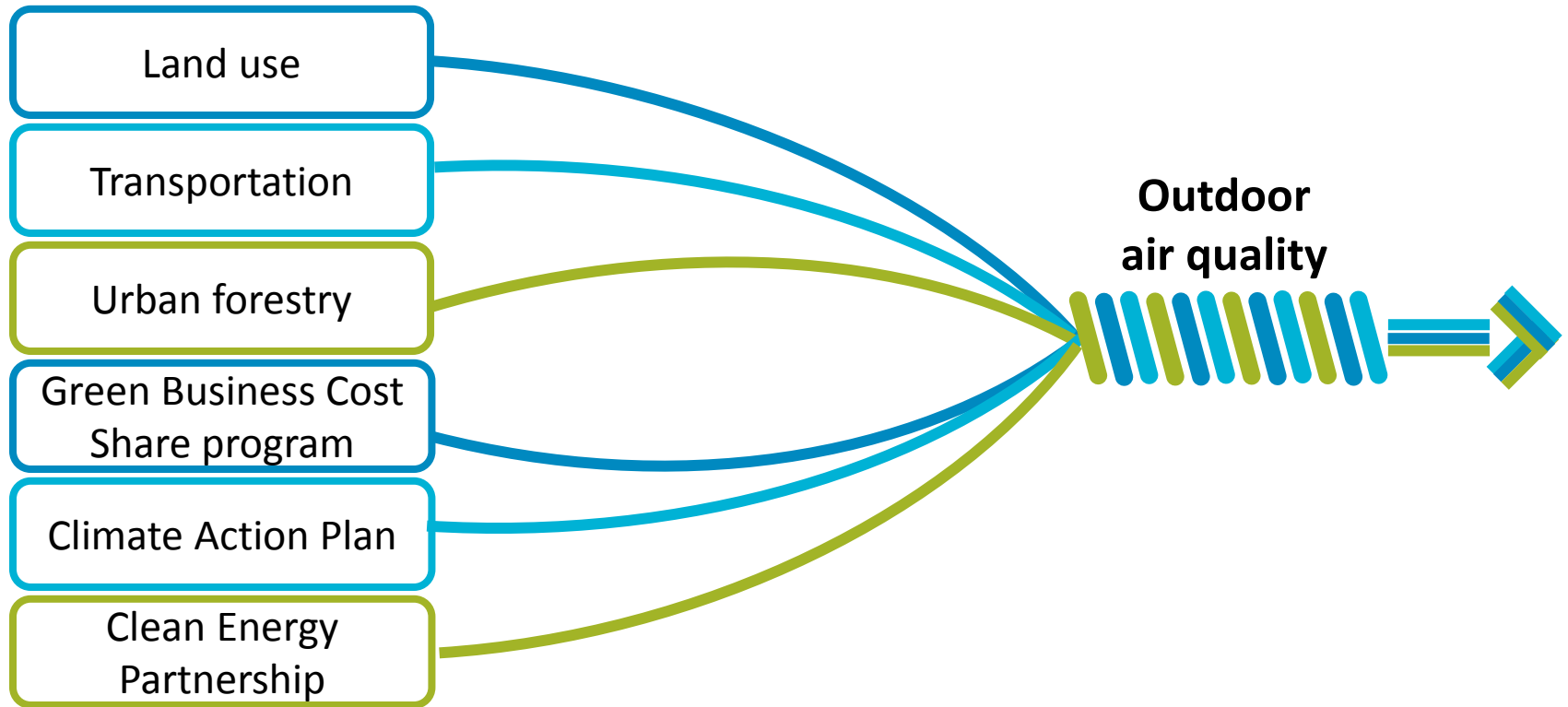
Air Quality Study Map of Tetrachloroethene



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3d. Estimated amount of pollution avoided through the Green Business Cost Share program (2012-2016)





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QUESTIONS

1. The gap between regulatory standards and health standards is hard to bridge and sustain. How can we build on existing levers or invent new ones in order to do this work?
2. The City often takes a "bottom up" approach to air quality protection, meaning we work with individuals, small groups or businesses to address air quality issues. This is different from the "top down" regulatory approach agencies often take. How do we find ways to support and mobilize around this work?
3. How do we prioritize and stay focused on our core work of dealing with the biggest contributors to bad air quality?
4. How can we energize the public about area sources the way they are about point sources? Similarly, how can we energize the public around collaborative actions to improve air quality rather than or in addition to lawsuits and shutdowns?

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